



## ATTACHMENT A -- SPECIFICATION CHANGES

The following page is a copy of page 1 from the original application, marked-up to show revisions to the specification that are being presented in the present Amendment.



## ANALOG AND NEURAL NETWORK COMPUTATION USING DNA

### CROSS-REFERENCES TO RELATED APPLICATIONS

- 5           This application is a continuation-in-part of U.S.  
          *now U.S. Patent No. 6,150,102 that issued November 21, 2000*  
Application Serial Number 09/078,761 filed May 15, 1998, which  
  
is a continuation-in-part of U.S. Application Serial Number  
          *now U.S. Patent No. 6,083,726 that issued July 4, 2000*  
09/018,248 filed February 3, 1998. This application also  
  
claims the benefit of the filing date of U.S. Provisional  
  
10          Application Serial Number 60/086,654 filed May 26, 1998.

### FIELD OF THE INVENTION

- This invention provides methods for DNA analog  
representation of vector operations, including vector  
  
15          addition, determination of inner and outer products of  
vectors, and of the product of a matrix and a vector, using  
negative as well as non-negative numbers. The methods of the  
present invention utilize the spectrum of biochemical  
activities and operations which DNA molecules are capable of  
  
20          undergoing, including base-specific Watson-Crick hybridiza-  
tion, ligation, polymerase extension, site-specific strand  
cleavage via restriction enzymes, melting of duplex DNA,  
cleavage of DNA by site-specific endonucleases, and degrada-  
tion of DNA by exonucleases of broad sequence specificity.